

**PEORIA AREA EMS SYSTEM
PEDIATRIC PREHOSPITAL CARE MANUAL**

**Pediatric Cardiac Arrest
Protocol**

The successful resuscitation of a child in cardiac arrest is dependent on a systematic approach of initiating life-saving CPR, recognition of any airway obstructions, adequate oxygenation & ventilation, early defibrillation and transferring care to advanced life support providers in a timely manner. The majority of pediatric patients found in non-traumatic cardiac arrest are found to have some form of airway obstruction or respiratory failure. Providing good BLS care with regards to relieving foreign body airway obstructions and/or initiating CPR, pediatric patients have a better chance at a positive outcome. Adequate ventilation is the most important step in pediatric resuscitation.

First Responder Care

First Responder Care should be focused on confirming that the patient is in full arrest and in need of CPR. Resuscitative efforts should be initiated by opening the airway and initiating ventilations & chest compressions while attaching a defibrillator. It is important to assure that CPR is being performed correctly following AHA guidelines.

1. Determine unresponsiveness. Confirm that a transporting unit (and ALS intercept) has been activated.
2. Maintain patent airway and assess breathing. If breathing is absent or inadequate, give two (2) rescue breaths with a barrier device.
3. Check for pulse (10 seconds). If pulseless, **begin CPR**. The patient should be ventilated at 20-30 breaths/min using **oxygen at 15 L/min via BVM**.
4. Apply an AED **after 2 minutes of CPR** to determine if defibrillation is needed.
 - a) *If PEDIATRIC PADS are available* – apply as pictured on each of the AED electrodes with proper contact and without any overlap of the pads. If overlap of the pads occurs, use anterior (front) / posterior (back) placement with cervical spine precautions if neck/back injury is suspected.
 - b) *If ADULT PADS only* – apply anterior (front) / posterior (back) with cervical spine precautions if neck/back injury is suspected (see diagram at the end of this protocol).
5. Continue CPR until the AED is attached and turned on. Stop CPR when the AED is analyzing:
 - a) If the AED indicates “SHOCK ADVISED”, call out “*CLEAR!*” check for the safety of others, and push the SHOCK button (or stand clear if the AED device does not require shock activation).
 - b) Immediately **resume CPR for 2 minutes**.

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First Responder Care (continued)

- c) Reassess the patient and allow the AED to analyze.
 - d) If the AED indicates “SHOCK ADVISED”, call out “CLEAR!” check for the safety of others and push the SHOCK button (or stand clear if the AED device does not require shock activation).
 - e) Check for a pulse if the AED states “NO SHOCK ADVISED”.
 - f) **Continue CPR if pulse is absent.**
 - g) **Reassess every 2 minutes.** Shock if indicated.
 - h) If the patient regains a pulse at any time during resuscitation, then maintain the airway and assist ventilations.
 - i) Re-analyze the patient’s rhythm with the AED if the patient returns to a pulseless state. Shock if indicated.
6. Immediately turn patient care over to the transporting provider or ALS intercept crew upon their arrival.
7. Complete all necessary cardiac arrest documentation.

BLS Care

BLS Care should focus on maintaining the continuity of care by confirming the patient is in cardiac arrest and continuing resuscitative efforts initiated by the First Responders. Transporting BLS units should initiate an ALS intercept as soon as possible.

1. BLS transport care includes all of the components of *First Responder Care*.
2. Shocks delivered to the patient prior to the transporting unit arriving on scene should be taken into consideration during the transition of care. Transporting crews may want to utilize the AED used by the non-transporting First Responders if circumstances allow for exchange of equipment or personnel ride-along.
3. Call for ALS intercept and initiate transport as soon as possible.
4. **Contact Medical Control.**

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ILS Care

ILS Care should focus on maintaining the continuity of care by confirming that the patient is in cardiac arrest and beginning resuscitative efforts or continuing resuscitative efforts initiated by the First Responders.

1. Determine unresponsiveness.
2. Maintain patent airway and assess breathing. If the patient is not breathing, give two (2) rescue breaths with a barrier device.
3. Check for pulse (10 seconds). If pulseless, **begin CPR and continue for 2 minutes.**
4. Apply Quick-Combo pads (or Fast Patches).
5. Evaluate the rhythm.
6. If V-fib or pulseless V-tach, immediately **defibrillate at 2 J/kg.**
7. **Immediately resume CPR for 2 minutes.**
8. Evaluate the patient/rhythm and **defibrillate if needed at 4 J/kg. Continue CPR and re-evaluate patient/rhythm every 2 minutes.**
9. Obtain **peripheral IV** access.

ALS Care

ALS Care should focus on maintaining the continuity of care by confirming that the patient is in cardiac arrest and beginning resuscitative efforts or continuing resuscitative efforts initiated by the First Responders.

1. Determine unresponsiveness.
2. Maintain patent airway and assess breathing. If the patient is not breathing, give two (2) rescue breaths with a barrier device.

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ALS Care (continued)

3. Check for pulse (10 seconds). If pulseless, **begin CPR and continue for 2 minutes.**
4. Apply Quick-Combo pads (or Fast Patches).
5. Evaluate the rhythm.
6. If V-fib or pulseless V-tach, immediately **defibrillate at 2 J/kg.**
7. **Immediately resume CPR for 2 minutes.**
8. Evaluate the patient/rhythm and **defibrillate if needed at 4 J/kg. Continue CPR and re-evaluate patient/rhythm every 2 minutes.**
9. **Intubate** the patient in accordance with *Advanced Airway Control of the Pediatric Patient* guidelines and/or provide ventilation at 20-30 breaths/minute.
10. Obtain **peripheral IV or IO** access.
11. Identify and treat cardiac dysrhythmias according to the appropriate protocol.

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Anterior/posterior pad placement: Placement of the anterior AED pad (electrode) on the front of the patient mid-chest and the posterior pad on the back of the patient mid-chest. (Always follow manufacturer's recommendations and diagrams for pad placement). - see following diagram **



**Use the anterior/posterior pad placement if no pediatric pads are available and adult Quick Combos or Fast Patches are being utilized for a pediatric patient.

Critical Thinking Elements

- **If the cardiac arrest is witnessed by EMS personnel, start CPR and defibrillate immediately after the Fast Patches or Quick Combos are placed.**
- Treat the patient – not the monitor. A rhythm present on the monitor screen should NOT be used to determine pulse. If the monitor shows a rhythm and the patient has no pulse, begin CPR (the patient is in PEA – *pulseless electrical activity*).